

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-25 (Canceled).

26. (New) A method for treating fumes generated during the production, conversion and/or handling of heated products of petroleum origin, such as hydrocarbons, asphalts and bituminous hot mixes, wherein it implies:

- the introduction of said fumes into a reactor in which the fume components undergo free radical degradation by cold plasma generated in the reactor by the introduction of air through at least one dielectric barrier discharge arranged close to at least one of the reactor walls which extend parallel to the flow direction of the fumes passing through the reactor, and
- the retention of the reaction products generated in the reactor from the free radical entities resulting from the degradation of the fume components, using at least one appropriate trapping device.

27. (New) The method as claimed in claim 26, wherein the fumes are introduced by a carrier air stream.

28. (New) The method as claimed in claim 26, wherein at least one dielectric barrier discharge is present close to each side wall of the reactor.

29. (New) The method as claimed in claim 26, wherein the trapping device comprises at least one fluidized bed of an advantageously mineral medium.

30. (New) The method as claimed in claim 29, wherein said medium is a granular material advantageously containing alumina, silica, or calcite.

31. (New) The method as claimed in claim 29, wherein said medium is a microporous granular material such as zeolite or pumice.

32. (New) The method as claimed in claim 29, wherein said medium is a basic granular material such as pozzolan or a carbonate type rock.

33. (New) The method as claimed in claim 29, wherein the size of said medium is between 0.5 mm and 20 mm, advantageously between 1 mm and 10 mm.

34. (New) The method as claimed in claim 29, wherein the fluidized bed is fixed or circulating.

35. (New) The method as claimed in claim 26, wherein another dielectric barrier discharge is located close to the reactor outlet, advantageously placed perpendicular to the flow direction of the fumes passing through the reactor.

36. (New) The method as claimed in claim 26, wherein it further comprises, at the reactor outlet, a step of degradation of the residual ozone formed in the reactor by the passage of the air through the dielectric barrier discharge(s).

37. (New) The method as claimed in claim 26, wherein it further comprises an at least partial recirculation of the purified gases located in the gas stream leaving the reactor to the reactor inlet, in a mixture with the fumes to be treated.

38. (New) A device for treating fumes generated during the production, conversion and/or handling of heated products of petroleum origin, such as hydrocarbons, asphalts and bituminous hot mixes, in a reactor (1) comprising:

- at least one fume introduction system (2) in the lower part of the reactor (1),
- at least one dielectric discharge member (3) replacing at least part of at least one of the reactor walls (1) which extend parallel to the flow direction of the fumes passing through the reactor,
- at least one system for introducing air (4) through said dielectric discharge member(s),
- at least one appropriate trapping device (5) for retaining the reaction products generated in the reactor, and
- at least one discharge stack (6).

39. (New) The device as claimed in claim 38, wherein the fume introduction system (2) contains a Venturi (2').

40 (New) The device as claimed in claim 38, wherein the dielectric discharge member(s) (3) is (are) made in the form of modulable cassettes each consisting of a plurality of parallel electric tubes (7), said electric tubes each consisting of electric wires (8) sheathed in a dielectric insulation (9) and supplied by a high voltage generator.

41. (New) The device as claimed in claim 38, wherein the electric wires (8) are of copper.

42. (New) The device as claimed in claim 38, wherein the dielectric insulation (9) is of quartz, ceramic or glass.

43. (New) The device as claimed in claim 38, wherein the diameter of the dielectric insulation sheath (9) is between 2 and 10 mm.

44. (New) The device as claimed in claim 38, wherein the space between the parallel electric tubes (7) is between 1 and 2 mm.

45. (New) The device as claimed in claim 38, wherein at least one dielectric discharge member (3) is present to replace at least part of each side wall of the reactor (1), said members (3) being advantageously arranged in a face-to-face layout.

46. (New) The device as claimed in claim 38, wherein the trapping device (5) comprises at least one fluidized bed of an advantageously mineral medium.

47. (New) The device as claimed in claim 38, wherein it further comprises at least one filter means (10, 11) in the upper part of the reactor (1) before the discharge stack (6).

48. (New) The device as claimed in claim 38, wherein it further comprises at least one dielectric discharge member (3), in the upper part of the reactor (1), before the discharge stack (6).

49. (New) Use of the method as claimed in claim 29 or of the device as claimed in claim 46, in which the trapping device (5) comprises at least one fluidized bed of granular materials, in the preparation of an aggregate used in the production of a roadbuilding product.

50. (New) Use as claimed in claim 49, wherein the roadbuilding product is a hot mix or a bituminous mix.